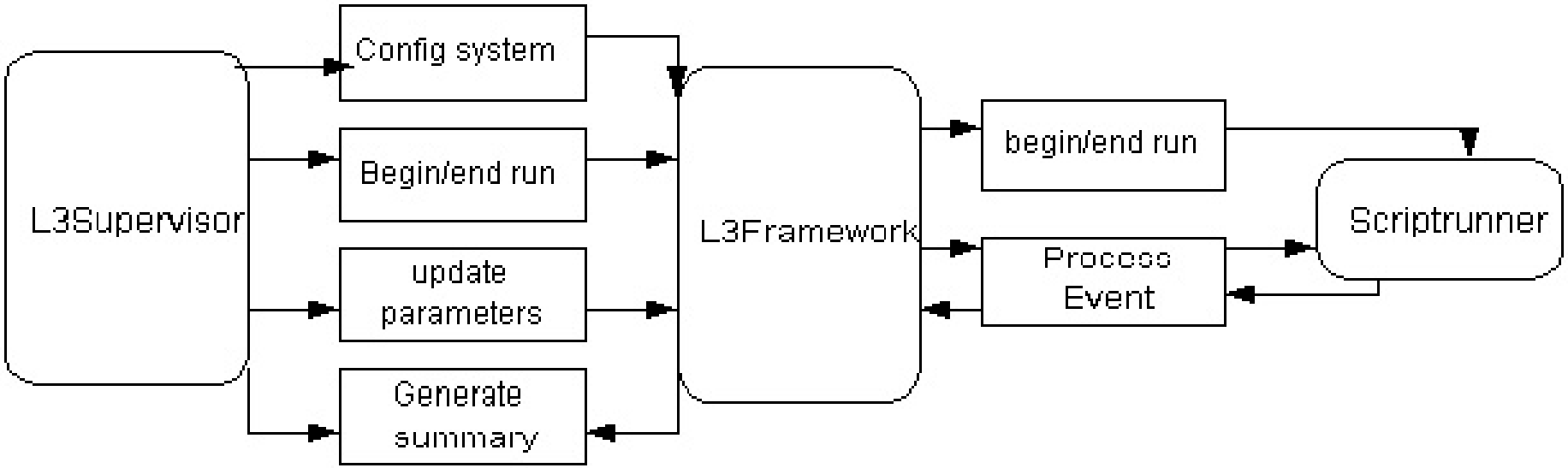
Software needed for L4

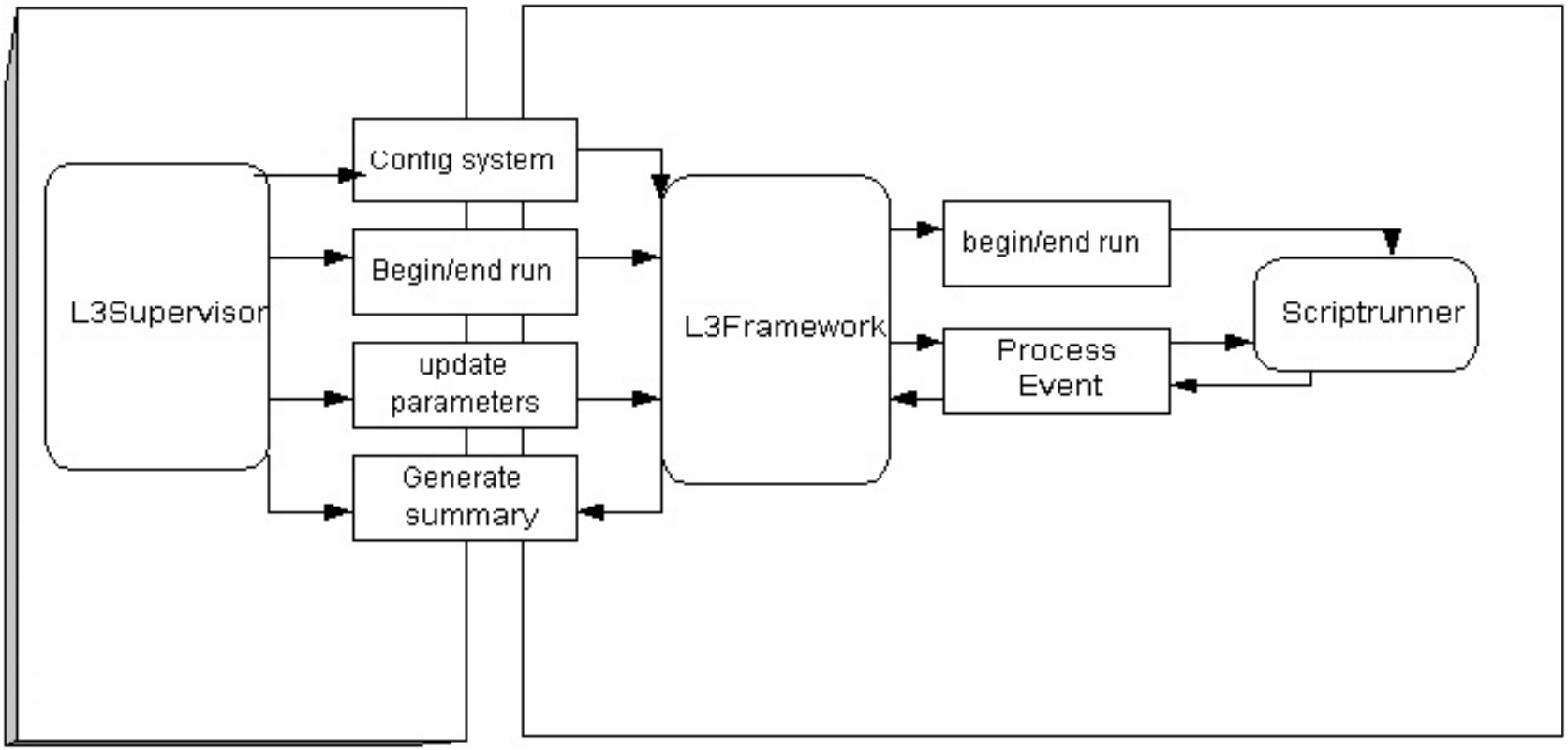
H. Schellman
5/04/01

Based on my perusal of existing documentation
Obviously not a final design

Current System



Port L3Framework

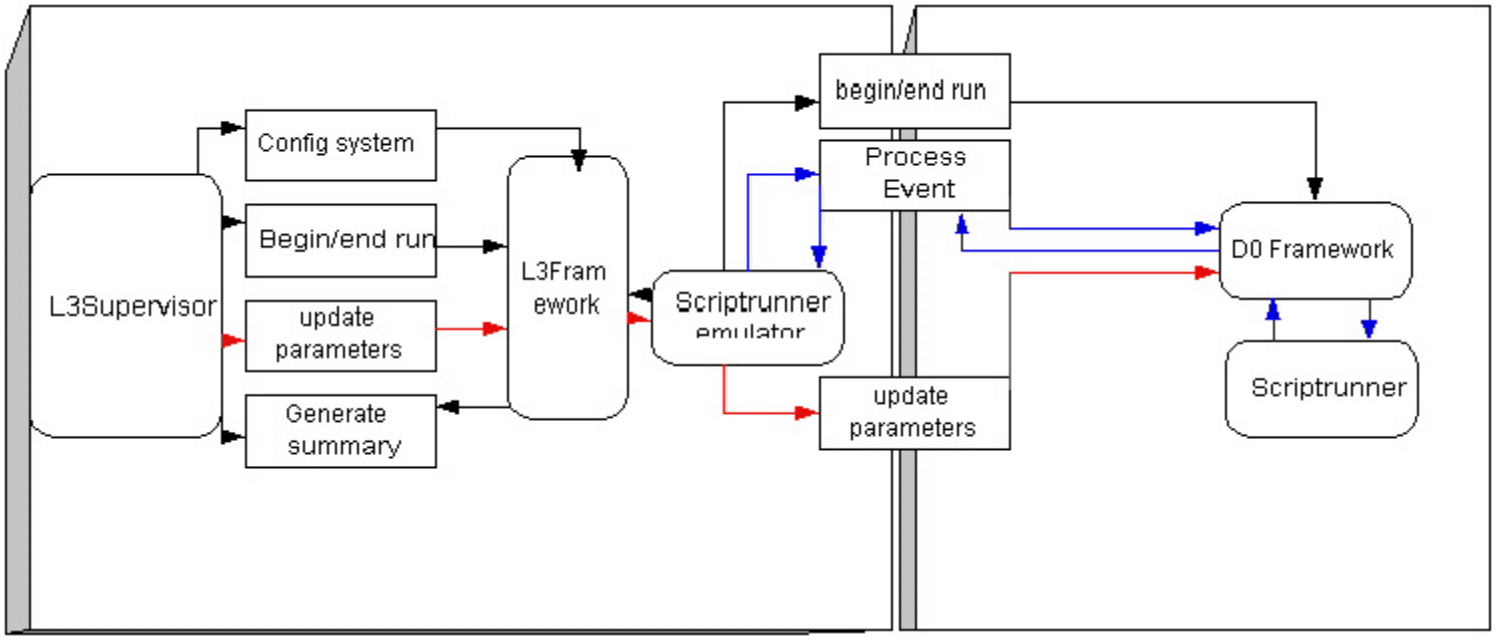


Need to change communication hooks in L3Supervisor

Port

- Existing L3Framework/Supervisor interface uses inter-process communications.
- Convert L3Framework to run on Linux
- Modify Supervisor/Framework communication to use ITC.
- What about communication with monitoring tools?

`Emulator' mode



L3Framework communicates with Scriptrunner Emulator
Emulator passes work on to D0 Framework on Linux.
Minimal changes to existing L3Supervisor/Framework

Emulator Mode

- Use existing L3Framework/Scriptrunner interface. Monitoring/Supervisor not changed.
- L3 hooks on NT emulate trigger processing by passing configuration/events across network to remote processor instead of processing locally.
- Use 'examine' like framework to receive events, process.

Emulators

- Need to be able to establish connections, pass commands (begin/end, download …)
- Need to be able to pass buffered events.
- Must appear to L3Framework to be as good as local processing.
  - Network latency – need some kind of buffering on transfers.
- Not hard to write for real-time systems people. 2 FTE months?

Remote processing

- Framework must be able :
  - Receive configuration signals
  - Receive events, process
  - Return event or info about event to L3 nodes.
- Examines already do events
  - Copy configuration interface from L3?
- L3 code already runs as part of offline framework
- D0 has experts that can do this, already doing for examines.
- 2FTE months?

Conclusion

- Existing L3 infrastructure is well written.
- Full port is possible but non-trivial
- May be best long-term solution

- Possible to do an emulator mode with minimal impact on existing system.
- Costs are some added complexity, performance hit due to increased number of layers?
- Advantage – almost all software is maintained on the relevant 'optimal' system.
  - Algorithms – Linux
  - Control/data gathering - NT